

## UNKIND WORDS ON INSECT DESCRIPTIONS.

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"The time has come," the Walrus said,  
"To speak of many things;  
Of shoes and ships and sealing wax,  
Of cabbages and kings."  
(*Alice in Wonderland*.<sup>1</sup>)

We speak of bugs and how they are described.

We begin with the archaic early descriptions, notable for economy in words and parsimony in structure, albeit for extravagance in color. These puzzles may be solved either by consensus of opinion or by examination of types, or by arduous, heartbreaking and always discouraging labor. And the tradition still seems to linger unabated.

We go on to the more modern and longer descriptions now current, which are sometimes diffuse and not always enlightening.

These descriptions are gradually becoming more and more structural. Some authors, to their great credit, now favor us with a two-part description—a purely structural part and a color picture, the one supporting the other.

In a structural description, each and every part and structure becomes valid as an element in the picture. Hence, internal as well as external structures may be used, and are used, to characterize a form. But sometimes these are too abstruse and subtle for everyday use.

It seems to the writer that structures naturally fall into two categories: the one, all structures, internal and external, which go to establish a discrete entity, the species; the other, what we may call recognition characters, that is, those outstanding readily seen structures which may be set dichotomously one against another, and which serve to differentiate forms.

Among these recognition characters are numbered: length and proportion of antennal and tarsal segments; visible abdominal segments, their sculpture, vestiture, etc.; proportions of head, thorax, scutellum and abdomen, relative to each other and within themselves; proportion and structure of leg segments; and *always* length and breadth of the insect. Incredible though it appear, the writer has run across recent descriptions in which size was omitted!

<sup>1</sup> Recommended reading for entomologists—particularly for descriptive entomologists.

This is a plea for some sort of coördination and correlation in descriptions, for standardized patterns, if you please. It is also an urgent plea for the use of characters which do not call for dismembering of specimens, frequently not our own and not seldom uniques; a plea for selection of *visible*, clean-cut external characters, without subtleties of curves, *not* for selection of concealed parts, such as embedded genitalic structures, going so far as ovaries and testes—not that these are not true and valid characters. A true extension of this last would take us—and legitimately, on the premises—to structure, form and motility of spermatozoa and into chromosome counts, and even into cytology. Ridiculous? Not at all—there is not one of these things which is not an integral constituent and a necessary element of the entity we term a species.

But in the general description we should restrict ourselves to a definite number of characters, perfectly visible, obvious and understandable ones, characters evident without a dissection, partial or total. How many entomologists realize that a consensus of, say, *ten* characters varying three ways, by combination and recombination, will afford a means of differentiating well over 50,000 species? Ask any competent mathematician to verify this.

Of course, each individual group has its own key characters, but these should be coextensive with the group. They need not even apply to another genus.

If entomologists were to agree by common consent on some pattern, as has been done in the Miridae, for instance, we would progress much faster and clear the land of much miscellaneous flotsam and jetsam.

By no means do we advocate a procrustean bed; because after all, *there is* progress; but we do advocate the promotion of progress by doing away with the deadening (and deadly) labor of trying to find out what was meant by some one who in substance said nothing.

In this view, a proper description would fall into three parts: a description proper, in which the author could write his heart out and display his erudition, using everything he wanted to, even to the contractile cell vacuoles (if he could get anyone to print it); a diagnosis, in which visible, clean-cut characters, variable or invariable, including size, should be used in sufficient number clearly to differentiate the species described from *any other* in the group, and even from species still to be discovered, which characters should be at least four, and preferably a larger number, say eight or ten; and finally, a color picture, where needed or called for.

Particularly, describers should always remember that the basic purpose of a description is to inform some one who had never seen the species.